

ORIGINAL

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April 1, 2016

Docket Control
Arizona Corporation Commission
1200 West Washington Street
Phoenix, Arizona 85007

Re: Notice of Filing – UNS Gas, Inc. Annual Demand-Side Management (“DSM”) Progress Report, Docket No. G-00000G-16-0100

The Gas Energy Efficiency Standards set forth in the Arizona Administrative Code, Section R14-2-2509.A, require UNS Gas, Inc. (“UNS Gas”) to submit an annual DSM Progress Report (“Report”) for each of its Commission-approved DSM programs by April 1st. UNS Gas hereby files its Report for 2015. The TEP and UES Demand Side Management PY2014 Q1-Q4 Measurement, Evaluation and Research Report listed in Appendix 1 of the Report contains confidential and competitively sensitive information and is being provided directly to Commission Staff.

If you have any questions, please feel free to contact me at (520) 884-3680.

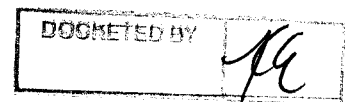
Sincerely,

Melissa Morales
Regulatory Services

Arizona Corporation Commission
DOCKETED

APR 01 2016

cc: Barbara Keene, Utilities Division, ACC
Compliance Section, ACC



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UNS Gas, Inc.
2015 ANNUAL DSM PROGRESS REPORT

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Definitions

The Arizona Administrative Code (“AAC”)

Arizona Department of Housing (“ADOH”)

Arizona Public Service (“APS”)

Commercial and Industrial (“C&I”)

The Arizona Corporation Commission (“Commission”)

The United States Department of Energy (“DOE”)

Demand-Side Management (“DSM”)

Energy Efficiency (“EE”)

The United States Environmental Protection Agency (“EPA”)

Implementation Contractor (“IC”) – A contractor hired to implement a program.

Joint Utility Program – a program that involves cooperation between electric and gas service providers. Builders have the option to earn incentives from both applicable utilities.

Low Income Home Energy Assistance Program (“LIHEAP”)

Measurement, Evaluation, and Research (“MER”) – The process of identifying current baseline efficiency levels and the market potential of DSM measures; performing process and program evaluations including the verification of installed energy efficient measures and reported savings; and identifying additional energy efficiency research opportunities.

Navigant Consulting, Inc. (“NCI”)

Program Implementation – The implementation of programs including administration, fiscal management of costs for labor, overhead, implementation contractors, or other direct program delivery.

Program Marketing – The marketing of programs and increasing DSM consumer awareness (direct program marketing as opposed to general consumer education).

Planning and Administration – Planning, developing, and administering programs including management of program budgets, oversight of the RFP process, oversight of ICs, program development, program coordination, customer participation, and general overhead expenses.

Program Development, Analysis, and Reporting – Research and development of new DSM program opportunities, analysis of existing and proposed programs and measures, and the tracking and reporting of participation, savings, and benefits. Associated costs are essential to comply with the ACC reporting and rules requirements.

Rebates & Incentives – Payments made to customers or contractors as rebates or incentives.

The Residential Energy Services Network (“RESNET”)

Request for Proposal (“RFP”) – the process through which proposals are solicited from contractors or vendors.

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the **Standard** or (“**GEES**”)—the Gas Utility Energy Efficiency Standards as defined in the State of Arizona Administrative Code Article 25.

Training and Technical Assistance – Energy-efficiency training and technical assistance for utility employees, contractors, or building officials.

Tucson Electric Power Company (“TEP”)

UNS Electric, Inc. (“UNSE”)

UNS Gas, Inc. (“UNSG” or “Company”)

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DSM PROGRESS REPORT

1. An analysis of the Company's progress toward meeting the annual energy efficiency standard

1.1 Progress Towards the Standard

In accordance with the Commission's Decision No. 71819 (August 10, 2010), Decision No. 73939 (June 27, 2013), and Arizona Administrative Code Section R14-2-2409 (effective January 1, 2011), UNS Gas, Inc. submits this annual DSM progress report for calendar year 2015. This report includes information for all of UNSG's residential and non-residential DSM and Renewable Energy Technology ("RET") programs that were in place during this reporting period.

Commission Decision No. 73939 approved a continued budget for the UNSG DSM programs. In Decision No. 73939, UNSG was directed to not file future EE Plans until further ordered by the Commission. UNSG requests a waiver of the requirement to meet the Standard located in AAC R14-2-2504.B. for the 2015 and 2016 calendar years. UNSG's DSM progress relative to the Standard, savings, expenditures, societal benefits, and environmental savings are summarized in Table 1 through Table 5 as noted below.

Table 1	2015 DSM Cumulative Savings
Table 2	2015 DSM Energy Savings
Table 3	2015 DSM Program Expenses
Table 4	2015 DSM Societal Benefits
Table 5	2015 DSM Lifetime Environmental Savings

UNSG's cumulative energy savings as a comparison to the Standard are reported in Table 1 below. In 2015 UNSG's cumulative annual savings as a percent of previous year retail sales was 0.64 percent while the savings target in the Standard for 2015 was 3.0 percent.

TABLE 1 – 2015 CUMULATIVE DSM SAVINGS

UNSG Year	Retail Energy Sales (Therms)	Incremental Annual Energy Savings (Therms)	Cumulative Annual Energy Savings (Therms)	Cumulative Annual Savings as a percent of previous year Retail Sales	Cumulative EE Standard
2010	140,222,684				
2011	139,990,801	281,203	281,203	0.20%	0.50%
2012	135,765,533	212,420	493,623	0.35%	1.20%
2013	142,678,808	129,437	623,059	0.46%	1.80%
2014	124,030,215	80,096	703,156	0.49%	2.40%
2015	132,492,260	95,079	798,235	0.64%	3.00%

Annual and Lifetime Savings

The DSM portfolio annual and lifetime energy savings are reported in Table 2 below. Savings are separated into the following categories:

- Capacity Savings (MW)
- Annual MWh Savings
- Annual Therm Savings
- Lifetime MWh Savings

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- Lifetime Therm Savings

UNSG is including energy savings toward the Standard for changes in energy efficient building codes per AAC R14-2-2404 (E). Energy savings from this program are reported in [Table 2](#) below.

TABLE 2 – 2015 DSM ENERGY SAVINGS

DSM Program	Annual MWh Savings	Annual Therm Savings	Lifetime MWh Savings	Lifetime Therm Savings
Residential Programs				
Low-Income Weatherization	136	2,135	2,379	37,363
Residential New Construction	0	5,475	0	164,249
Non-Residential Programs				
C&I Facilities Gas Efficiency	0	22,877	0	451,870
EE Building Codes & Appliance Standards ^a	NA	59,952	0	59,952
Portfolio Totals	136	90,439^b	2,379^b	713,434^b

^aUNSG is including an energy savings credit toward the Standard for changes in energy efficient building codes per A.A.C. R14-2-2504 (E).

^bAnnual and lifetime therm savings of do not include MWh savings. Annual therm savings + Annual MWh savings = 95,079 therms.

^cLow-Income Weatherization annual savings in therms is 2,135 therms + 4,641 equivalent therms = 6,776 therms.

1.2 DSM Annual Expenses

The annualized expenses for each program are reported in [Table 3](#) below. Expenses are separated into the following categories:

- Rebates and Incentives
- Training and Technical Assistance
- Consumer Education
- Program Implementation
- Program Marketing
- Planning and Administration
- Measurement, Evaluation, and Research

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TABLE 3—2015 DSM PROGRAM EXPENSES

DSM Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implementation	Program Marketing	Planning & Admin	Measurement, Evaluation, & Research	Program Total Cost
Residential Programs								
Low-Income Weatherization	\$94,974	\$587	0	(\$604)	\$2,310	\$4,787	\$640	\$102,694
Residential New Construction	\$13,200	\$1,204	0	\$10,392	0	\$823	\$280	\$25,900
Total for Residential Programs	\$108,174	\$1,792	0	\$9,789	\$2,310	\$5,610	\$920	\$128,594
Commercial Programs								
C&I Facilities Gas Efficiency	\$21,800	\$79	\$126	\$14,545	\$277	\$1,804	\$696	\$39,326
Total for Commercial Programs	\$21,800	\$79	\$126	\$14,545	\$277	\$1,804	\$696	\$39,326
Portfolio Totals								
	\$129,974	\$1,870	\$126	\$24,334	\$2,587	\$7,413	\$1,616	\$167,919
							Program Costs	
							Program Development, Analysis, & Reporting Software	
							TOTAL	
							\$167,919	
							\$12,828	
							\$180,747	

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1.3 Societal Benefits and Performance Incentives

The portfolio societal benefit calculations are reported in Table 4 below. UNSG's portfolio benefit-to-cost ratio for 2015 is 1.48 and includes all program costs and labor.

TABLE 4 – 2015 DSM SOCIETAL BENEFITS

DSM Program	Societal Benefits	Societal Costs	Net Benefits
Residential Programs			
Low-Income Weatherization	\$165,003	\$98,720	\$66,283
Residential New Construction	\$42,723	\$80,791	(\$38,068)
Non-Residential Programs			
C&I Facilities Gas Efficiency	\$139,779	\$55,242	\$84,537
Portfolio Totals	\$347,506	\$234,754	\$112,752

1.4 Lifetime Environmental Savings

The annualized expenses for each program are reported in Table 5 below. Environmental savings are separated into the following categories:

- sulphur oxides,
- nitrogen oxides,
- carbon dioxide, and
- water consumption

TABLE 5 – 2015 DSM LIFETIME ENVIRONMENTAL SAVINGS

DSM Program	Lifetime SOX Reduction (lbs)	Lifetime NOX Reduction (lbs)	Lifetime CO2 Reduction (lbs)	Lifetime Water Reduction (gallons)
Residential Programs				
Low-Income Weatherization	1,856	5,996	2,622,840	554,414
Residential New Construction	0	0	1,938,142	0
Non-Residential Programs				
C&I Facilities Gas Efficiency	0	0	5,332,066	0
Portfolio Totals	1,856	5,996	9,893,048	554,414

2. A list of Commission approved DSM and RET programs and measures, organized by customer segment

The Company currently has three Commission approved DSM programs as listed below. As of the date of this report, UNSG does not have any RET programs.

Commission Approved DSM Programs	
Residential Programs	
4.1.	Low-Income Weatherization
4.2.	Residential New Construction
Non-Residential Programs	
4.3.	C&I Facilities Gas Efficiency

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3. A description of the findings from any research projects completed during the previous year

UNSG did not complete any research projects during this reporting period.

4. Information on UNSG DSM programs

Non-Residential Programs

4.1 Low-Income Weatherization ("LIW")

a. Description

The UNSG LIW is designed to improve the energy efficiency of homes for customers whose income falls within the defined federal poverty guidelines. The LIW Program is intended to reduce gas bills for eligible customers and to improve the comfort within their home.

b. Program Goals, Objectives, and Savings Targets

The objectives of the LIW Program are to:

- Increase the number of homes weatherized each year;
- Reduce low-income customers average household utility bills through the weatherization process; and
- Improve the quality of life for the customers by providing them with a more energy efficient home.

The 2015 goal was to weatherize 90 homes.

c. Level of Participation

A total of 61 households received weatherization assistance during this reporting period.

d. Costs Incurred

Costs incurred during this reporting period are listed below:

DSM Program	Rebates & Incentives ^a	Training & Technical Assistance	Consumer Education	Program Implementation	Program Marketing	Planning & Admin	Measurement, Evaluation & Research	Program Total Cost
Low Income Weatherization	\$94,974	\$587	0	(\$604)	\$2,310	\$4,787	\$640	\$102,694

^aIncludes \$3,973.59 for health and safety related repairs and \$8,633.97 for Weatherization Agencies' administration expenses.

e. Evaluation and Monitoring Activities and Results

The Arizona Department of Housing ("ADOH") is analyzing and tracking energy use in weatherized homes statewide through billing data provided from UNSG and other Arizona gas and electric utilities. As their database grows, a more accurate analysis of the impact of weatherization activities is emerging. The ADOH report is attached as **Appendix 2**.

The January 2016 ADOH report for 2015 is summarized below:

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- The report includes projects completed across Arizona on homes utilizing TEP, UNSG, UNSE, and Southwest Gas Corporation utility data. This analysis is ongoing, and new data will be updated to these values on a quarterly basis.
- Savings to Investment Ratios ("SIR") are provided for total investment from all funding spent (diagnostics, energy measures, health and safety measures) and for energy related measures only (diagnostics and energy measures).
- Present value is based on 17.5 years measure life, discount rate of 3 percent and a utility cost escalation rate of 3 percent.
- The combined SIR of all jobs reviewed to date for funds (LIHEAP, DOE, utility funding) spent on diagnostics, energy measures and health and safety measures was 0.99.
- The combined SIR of all jobs reviewed to date for funds spent on energy measures and diagnostics was 1.26.
- The average savings per home reviewed was 2,229 kWh and 35 therms of natural gas (gas therms average includes all electric homes).

f. kW, kWh, and Therm Savings

The savings for this reporting period are listed below:

Program	Participating Homes	Annual Therm savings ^a	Lifetime Therm savings
Low Income Weatherization	61	6,776	118,572

^aIncludes 4,641 available credits for therm equivalent savings per A.A.C. R14-2-2501.39 and R14-2-2504.A.

g. Environmental Benefits realized

Realized environmental benefits are reflected in Table 5 above.

h. Incremental benefits and net benefit

Incremental benefits and net benefits are reflected in Table 4 above.

i. Performance-incentive calculations for the previous year

There are no performance incentives for UNSG.

j. Problems Encountered and Proposed Solutions

No significant problems were encountered during this reporting period.

k. Program Modifications

There were no program modifications in 2015.

l. Programs or Measures Terminated

No measures were terminated during this reporting period. UNSG does not plan to terminate any LIW program measures in 2016.

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4.2 Residential New Construction Program

a. Description

The Residential New Construction Program for UNSG is marketed as the Energy Smart Homes program (“**ESH Program**”). The ESH Program emphasizes a whole-house design and construction approach for improving occupant health, safety, comfort, home durability, and energy efficiency. ESH Program homes must meet the EPA/DOE Energy Star® Home performance requirements and have random on-site inspections and field testing during construction performed by third-party RESNET® certified energy raters.

The ESH Program is administered as a Joint Utility Program. To earn the Joint Utility Energy Star® Home Certification, a participating builder must meet the EPA/DOE requirements and coordinate the certification process with the applicable electric service provider (APS or UNSE) and UNSG.

b. Program Goals, Objectives and Savings Targets

The objectives of the ESH Program are to:

- Work with local builders to construct energy efficient homes;
- Educate consumers on the benefits of Energy Star® Homes;
- Promote builders who provide Energy Star® Homes that include high efficiency furnaces and water heaters;
- Train builder construction staff and subcontractors in advanced building science concepts to increase energy efficiency through improved design and installation practices;
- Transform the market and improve construction practices in the UNSG service territory;
- Reduce peak demand and overall energy consumption in new homes;
- Stimulate construction of new homes that are inspected and tested to assure energy performance;
- Assist builder sales agents with promoting and selling energy-efficient homes;
- Increase homebuyer awareness and understanding of energy-efficient building practices and the benefits of purchasing an energy efficient home.
- Encourage participation in the ESH Program by providing incentives to homebuilders for each qualifying home.

The 2015 goal for the ESH program was 100 certified homes.

c. Level of Participation

Actual 2015 participation was 75 certified homes. Participating builders and raters indicated a slight downturn in new homes built in the UNSG service territory over 2014.

d. Costs Incurred

Costs incurred during this reporting period are listed below:

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DSM Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implementation	Program Marketing	Planning & Admin	Measurement, Evaluation & Research	Program Total Cost
Residential New Construction	\$13,200	\$1,204	0	\$10,392	0	\$823	\$280	\$25,900

e. Evaluation and Monitoring Activities and Results

NCI performed quarterly reconciliations for this program to verify coincident demand and energy savings. The MER report is attached in **Appendix 3**.

f. kW, kWh, and Therm Savings

Measure	No. of Homes	Annual Therm savings	Lifetime Therms
Residential New Construction	75	5,475	164,249

g. Environmental Benefits realized

Realized environmental benefits are reflected in Table 5 above.

h. Incremental benefits and net benefits

Incremental benefits and net benefits are reflected in Table 4 above.

i. Performance-incentive calculations for the previous year

There are no performance incentives for UNSG.

j. Problems Encountered and Proposed Solutions

The large geographic territory served by UNSG makes builder interaction difficult. UNSG is evaluating resource allocations in an effort to increase interaction with builders and increase participation in the program.

k. Program Modifications

In April 2015 implementation of the UNSG Residential New Construction program was brought in-house and the contract with the implementation contractor CSG was terminated.

l. Programs or Measures Terminated

No measures were terminated during this reporting period. UNSG does not plan to terminate the ESH Program or any Program measures in 2016.

Non-Residential Programs

4.3 Commercial and Industrial Facilities Gas Efficiency Program ("C&I Program")

a. Description

The C&I Program is designed to promote the installation of high-efficiency gas-fueled equipment and systems at existing commercial and industrial facilities within the UNSG service area.

b. Program Goals, Objectives and Savings Targets

The C&I Program objectives are to:

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- Help commercial and industrial customers reduce and manage their energy costs;
- Reduce greenhouse gas emissions; and
- Lower overall rates and energy costs compared to other resource options.

The savings goal for 2015 was 44,000 therms.

c. **Level of Participation**

There were four participating customers in the C&I Program during this reporting period.

d. **Costs Incurred**

Costs incurred during this reporting period are listed below:

DSM Program	Rebates & Incentives	Training & Technical Assistance	Consumer Education	Program Implementation	Program Marketing	Planning & Admin	Measurement, Evaluation & Research	Program Total Cost
C&I Facilities Gas Efficiency	\$21,800	\$79	\$126	\$14,545	\$277	\$1,804	\$696	\$39,326

e. **Evaluation and Monitoring Activities and Results**

NCI performed quarterly reconciliations for this program to verify coincident demand and energy savings. The MER report is attached in **Appendix 3**.

f. **kW, kWh, and Therm Savings**

Measure	No. Installed	Therm savings	Lifetime Therms
High-Efficiency Boilers	6	21,743	434,861
High-Efficiency Water Heaters	3	1,134	17,009
Total	9	22,877	451,870

g. **Environmental Benefits realized**

Realized environmental benefits are reflected in **Table 5** above.

h. **Incremental benefits and net benefits**

Incremental benefits and net benefits are reflected in **Table 4** above.

i. **Performance-incentive calculations for the previous year**

There are no performance incentives for UNSG.

j. **Problems Encountered and Proposed Solutions**

Participation and therm savings have decreased substantially since 2011. Without additional EE measures it is difficult to increase program participation and savings, and meet the Standard.

k. **Program Modifications**

No modifications were made to the C&I Program during this reporting period.

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i. Programs or Measures Terminated

No measures were terminated during this reporting period. UNSG does not plan to terminate this C&I Program or any program measures in 2016.

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Appendix 1 – Commission Approved DSM Programs & Measures for 2015

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DSM Program	Approved Measures
Residential Programs	
Low-Income Weatherization	Whole House Low Income Weatherization
Residential New Construction	Energy Efficient New Homes
Non-Residential Programs	
C&I Facilities Gas Efficiency	Gas Furnace
	Water Heater over 75,000 btuh
	Space Heating Hot Water Boiler
	Space Heating Steam Boiler

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Appendix 2 – Arizona Department of Housing Evaluation Report

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**ARIZONA DEPARTMENT OF HOUSING
TRAINING, MONITORING AND EVALUATION REPORT
FISCAL YEAR 2016 ANNUAL REPORT
Unisource Gas
January 2016**

Training and Monitoring for Weatherization

Training for the Weatherization Assistance Program (WAP) is done through a variety of methods; the two biggest ones are one on one field training when an issue is noted in the field and class room/lab training. The one on one field training is done by the state monitors when they are out in the field looking at work in progress and monitoring jobs that are completed. When a monitor sees something that is not to WAP standards it is noted and brought to the agencies attention. If training is required it is done right then, in the field where it is best, as it is hands-on training.

The class room/lab training is provided by the Southwest Building Science Training Center (Training Center), operated by the Foundation for Senior Living Home Improvement (FSL). The state's weatherization program has a long history working with the training center in developing training curriculum and training weatherization workers. The main stay of WAP training from the training center is WAP boot camp and Success with Weatherization (Critical Details), which is required by all WAP field workers. The Boot Camp is a five day training that covers the basics of building science, pressure diagnostics, health and safety and residential energy auditing.

The Success with Weatherization training was developed through a two year grant for quality control in weatherization by the Training Center and Advance Energy. The course focuses on critical details of the work being performed and teaches the steps necessary to complete the work, correctly every time. The training material and detail sheets that are taught in the class are available online to the students once they completed the course. This is the first year that Success with Weatherization has been incorporated into the program. That state mandated that at least one field personnel and one member of management must attend the course from each agency.

The training center also offer course in Lead RRP, OSHA 10 and OSHA 30 Certifications, WAP administration and many more, which some are required by the weatherization program but other facilities can provide the training, as the two mentioned above though can only be taken at the Training Center, for a complete list of training course they offer can be found at:
<http://www.swbstc.org/trainings/>

The Training Center, in partnership with the Building Performance Institute, Inc. (BPI), provides nationally recognized building science certifications to Arizona's weatherization agencies. All agencies have BPI Certified staff members or contractors that are BPI certified.

Details on BPI
<http://www.bpi.org/>

Peer-to-Peer Fiscal and Technical Procedures

The Arizona WAP has a peer-to-peer working group that allows the fiscal and technical staff from the agencies and the ADOH to meet and discuss issues that arise in the program. Agencies are able to share

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solutions to common problems and other information. These peer-to-peer meetings occur every few months and have been a great arena to discuss any changes or improvement to the program.

Agency Personnel Performance Reviews

A review and monitoring process to evaluate the competency of agency personnel performing the various requirements of the weatherization program was developed for the statewide weatherization assistance program. Based on this process, additional one-on-one training and technical assistance is provided on an as-needed basis.

Monitoring

The Arizona WAP has implemented a monitoring program that focuses on determining areas that need improvement and utilizes the monitoring process to implement needed changes. The areas covered include: auditing, diagnostics, testing and measures completed and program operations. This process begins with the review of 100 percent of the technical reports for auditing, diagnostics, testing and work completed each month. These reports can highlight instances where opportunities were missed or program requirements were not followed. When there are concerns with some element of the report, a site visit is conducted to address the concerns. At the job site, the diagnostic, testing and work are reviewed to determine if any improvements can be made. A minimum of 5 percent of the job sites will be visited, with each agency being monitored at least once during the twelve month period. Based on the site visit results, follow-up training and technical assistance is provided to the local agency. For agencies where the technical reports do not show concerns, the site visit consists of monitoring a number of randomly selected homes and reviewing the diagnostics, testing and work completed. These efforts, combined with the training and competence programs, have a goal of ensuring that the program is providing the clients with a high return on Utility's investments, while maintaining or improving the customers' health and safety.

Utility Bill Analysis

This report includes jobs completed across Arizona using data provided by TEP, Unisource Gas and Electric and Southwest Gas utility data. This analysis is ongoing, new data will be updated to these values on a quarterly basis.

Provided are Savings to Investment Ratios (SIR) for total investment from all funding spent (diagnostics, energy measures and health and safety measures) and for energy related measure only (diagnostics and energy measures).

Assumptions

Present value is based on 17.5 years measure life, discount rate of 3 percent and utility cost escalation rate of 3 percent.

Results Summary

The combined SIR of all jobs reviewed to date for funds (LIHEAP, DOE, utility funding) spent on diagnostics, energy measures and health and safety measures is .99 SIR. The combined SIR of all jobs reviewed to date for funds spent on energy measures and diagnostics is 1.26. Please note that sub-grantees often run parallel programs using other funds such as CDBG to cover those items that cause deferrals.

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The average energy savings per home reviewed was 2229 kWh of electricity and 35 therms of natural gas (gas therms average includes all electric homes).

ADOH will continue to track utility histories of completed jobs, the tracking of post-weatherization energy savings will give positive feedback to weatherization staff, highlighting measures or processes that provide high returns. Local operational changes can be based on this information to improve cost-effectiveness.

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Appendix 3 – Navigant Consulting, Inc, Measurement, Evaluation, and Research Report

The Navigant Consulting, Inc. report is provided directly to Commission Staff.